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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,465	12/03/2001	Thomas Eckel	Mo-6623/LcA 34,860	2780
157	7590	04/12/2004		
BAYER POLYMERS LLC 100 BAYER ROAD PITTSBURGH, PA 15205			EXAMINER BUTTNER, DAVID J	
			ART UNIT	PAPER NUMBER
			1712	

DATE MAILED: 04/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/007,465

Applicant(s)

ECKEL ET AL.

Examiner

David Buttner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 3,4,6-11 and 13-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3,4,6-11,13-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

Claims 9 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim 9 limits methacrylic alkylates to being 1-50% of (c). Earlier in the claim (meth)acrylic alkylates are listed as possibly being 50-99% of (c). The two phrases are inconsistent. The same problem exists in claim 10.

A homopolymer of methylmethacrylate does not meet the claims because such a polymer has 100% of methacrylic acid alkylate. 100% does not meet the 50-99% limitation. 100% does not meet the 1-50% limitation either.

A copolymer of 75% methylmethacrylate and 25% butylmethacrylate does not meet the claims. Such a polymer has 100% methacrylic acid alkylate. 100% does not meet the 50-99% limitation. 100% does not meet the 1-50% limitation. Perhaps applicant believes one can arbitrarily ignore the butylmethacrylate when calculating the amounts of "styrene, methyl styrene, chlorostyrene and methacrylic C<sub>1</sub>- C<sub>8</sub> alkylates" and correspondingly ignore the amount of methylmethacrylate when calculating the amounts of "vinyl cyanides, (meth) acrylic C<sub>1</sub> - C<sub>8</sub> alkylate and unsaturated acids." The examiner does not agree. All the members of the Markush groups must sum to 50-99% and 1-50% respectively.

If applicant's position was correct, a competitor could use a 75/25 methylmethacrylate/butylmethacrylate copolymer, without infringing the claim. The potential infringer could arbitrarily ignore the methyl methacrylate when calculating 50-

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99% limitation . 25% butylmethacrylate does not meet the 50-99% limitation. 75% methyl methacrylate does not meet the 1-50% limitation.

Claims 3, 4, 6-11 and 13-19 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over the Kurata '173 Patent.

Kurata exemplifies (No. 15) a blend of 60 PC, 10 SAN, 0.5 phosphorous compound and 30 parts of ABS. This emulsion polymerized ABS (I-1) has a graft ratio of 75% (column 10, line 38) . This ABS has 40 parts polybutadiene contained therein. Based on Kurata's definition of grafting ratio (column 5, line 54), one can determine 30 parts of the monomers actually grafted to the 40 parts of rubber, leaving 30 parts of the monomer as free ungrafted copolymer. This means the 30 parts of ABS of example 15 is actually 21 parts grafted rubber and 9 parts ungrafted copolymer.

Inherently, the Z ratio is 21/19. The composition has high impact strength. The claimed initiating system (claims 15,16,18 and 19) is a product by process type limitation. There is no reason to believe this initiating system results in a final product different from Kurata. Also note comparison No. 13 shows similar blends with greater amounts of phosphorous compounds

Claims 3,4,6-11 and 13-19 rejected under 35 U.S.C. 103(a) as being unpatentable over Kurata '173 in view of Wittman '285.

Kurata does not disclose applicant's preferred initiating system of hydroperoxide/ascorbic acid.

Wittmann teaches such a system improves graft yield of the ABS which improves the composition's fracture resistance and fuel resistance (see table I).

It would have been obvious to utilize a hydroperoxide/ascorbic acid initiating system to make the ABS of Kurata for the expected improvements.

Claims 3,4,6-11 and 13-19 rejected under 35 U.S.C. 103(a) as being unpatentable over Eckel '404 in view of Gosens '394.

Eckel '404 produces an emulsion ABS of high graft yield (col 14 line 45) utilizing hydroperoxide and ascorbic acid (col 14 line 13,18). This results in a blend of SAN grafted to rubber and minor amounts of free SAN. The mixture is then blended with PC (#2,11-13). Eckel (col 13 line 16) suggests flame retardants but does not name any species.

Phosphates are well known flame retardants for PC compositions (see Gosens abstract). It would have been obvious to add any phosphate flame retardant to Eckel's composition for the expected result.

Claims 3, 4, 6-11, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Eckel '493 or Grigo '960 in view of Gosens '394.

Eckel '493 exemplifies (No. 9) a blend of polyester carbonate, MMA/BA grafted polybutadiene in emulsion form and styrene/MAH copolymer. The grafted rubber should not have more than 7% free (ungrafted) copolymer (column 5, line 36). The impact strength at  $-20^{\circ}\text{C}$  meets applicant's claim .

Grigo exemplifies (No. 9) a blend of polycarbonate and an emulsion graft of 20 parts MMA on 80 parts polybutadiene. Even if little of the MMA grafted to the rubber, the ratio of rubber to free ungrafted PMMA would be 4/1.

Grigo also measures impact strength at  $-20^{\circ}\text{C}$  to be 49.5 KJ/M<sup>2</sup>.

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The initiator limitations are product by process in nature. Both of the primary references (Eckel '493, column 6, line 54; Grigo, column 10, line 51) suggest the inclusion of flame-retardants, but do not name any species.

Phosphates are well known flame-retardants for PC compositions (see Gosens). It would have been obvious to add any phosphate flame retardant to the primary references for the expected results.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Buttner whose telephone number is 571-272-1084. The examiner can normally be reached on weekdays from 10 to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DAVID J. BUTTNER  
PRIMARY EXAMINER  
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4/6/04

